

Name: \_\_\_\_\_

**at1124exam: Radicals and Squares (v902)**

**Question 1**

Simplify the radical expressions.

$$\sqrt{12}$$

$$\sqrt{18}$$

$$\sqrt{63}$$

**Question 2**

Find all solutions to the equation below:

$$2((x+4)^2 - 9) = 32$$

**Question 3**

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 18x = -72$$

**Question 4**

Any quadratic function, with vertex at  $(h, k)$ , can be expressed in vertex form:

$$y = a(x - h)^2 + k$$

A quadratic function is shown below in standard form.

$$y = 4x^2 - 24x + 28$$

Express the function in **vertex form** and identify the **location** of the vertex.